POPULATION TODAY

Vol. 16, No. 7/8 July/August 1988

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U.S. population shifts affect presidential elections; see page 3. (Above: John F. Kennedy campaigns for President in 1960.)

PRB *A publication of the Population Reference Bureau, Inc.*

FROM THE EDITOR'S DESK

We live in the Information Age. Data availability is exceeding our wildest dreams, not to mention our ability to make use of it.

The Census Bureau published 300,000 pages of statistics from the 1980 Census, and offered 10 times that much data on computer tape. Personal computer hard drives can now hold hundreds of millions of bytes. With optical storage, billions and trillions of little datums may someday be cheaply stored on durable plastic platters. Even Jorge Luis Borges's ultimate "library," which reduced all human literature down to a single book (a book with an infinite number of pages) seems within the realm of possibility.

The ultimate compact data medium of all time, however, was waggishly described by A.K. Dewdney in the *Scientific American* a few years ago, crediting Martin Gardner. All human literature and records, after all, can be encoded as a very long string of numerical digits (e.g., 2908147216 etc., etc.). Dewdney modestly proposed placing a decimal point at the beginning of this string to produce a gargantuan fraction (0.2908147216 etc., etc.).

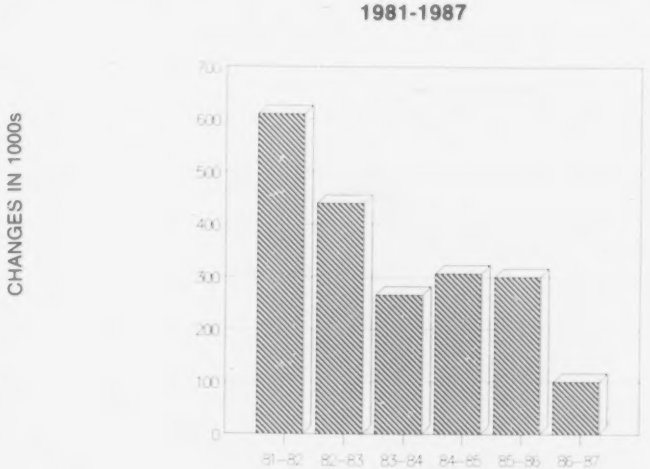
Now fashion a pristine metal rod composed of some (slightly hypothetical) perfect substance. Then inscribe a tiny nick upon that rod, situating the nick so that, viewed as marking a proportion of the rod's total length, it *precisely* corresponds to the fraction given above (0.2908147216).

And there you have it. All human history, all human records, would thus be, in Dewdney's words, "reduced to a nick on a rod," a rod easily carried around on one's key chain. I'd be happy to explain further the technical details of writing to and reading from such a metal bar – but alas, I see I'm out of space.

– Art Haupt

SPEAKING GRAPHICALLY

Change in Texas Population



During the 1980s, Texas's population growth has faltered, owing to economic setbacks in the energy industry and a consequent exodus of out-migrants that has partially offset population increase due to fertility.

Source: U.S. Census Bureau, *Current Population Reports*, P-25, No. 1024.

POPULATION TODAY

VOL. 16, NO. 7/8 July/August 1988

POPULATION TODAY, the newsmonthly of population and demography, is published 11 times a year (a combined issue in July/August) by the Population Reference Bureau, Inc., founded in 1929, a nonprofit organization engaged in the objective dissemination of population information. The views and opinions of POPULATION TODAY's contributors are their own and do not necessarily reflect those of PRB.

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Back Issues: Back issues of POPULATION TODAY and its predecessor INTERCOM are available in limited quantities from PRB for $2.00 per copy.

Mailing: Printed in Washington, D.C. Mailed nonprofit postage rate in the United States; printed matter surface rate to Canada, Mexico, and to foreign subscribers.

Address Changes: Send current PRB address label and new address; please allow eight weeks for change.

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ISSN 0739-2448

PRB MEMBERSHIP

In addition to POPULATION TODAY, PRB members receive annually four in-depth POPULATION BULLETINS, two wall charts (the WORLD and UNITED STATES POPULATION DATA SHEETS), the quarterly population education newsletter, INTERCHANGE, with two accompanying teaching modules, and POPULATION TRENDS AND PUBLIC POLICY papers as they appear.

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Politics and the U.S. Population

This summer's political conventions serve as a fresh reminder of how demography affects U.S. politics. In particular, two important "demo-political" events now loom on the national horizon: the Presidential election on Nov. 8 of this year and the 1991 reapportionment of the House of Representatives.

Not coincidentally, PRB has just published the seventh edition of the *U.S. Population Data Sheet*. Where people live does not necessarily compel them to vote a certain way, and the Data Sheet won't divine the next election. But with Data Sheet in hand, politicos – both amateur and professional – can get a better handle on the changing regional distribution of political power (i.e., voting-age population).

For example, how will the mushrooming growth of the Sun Belt be translated into votes? Fifty-four percent of the total Electoral College votes are now to be found in the South and West, the Data Sheet shows. As recently as 1956, these two sunny regions held only 45 percent.

The South turns out to be the least represented region of the country – its electors each represent the Presidential preference of about 356,000 voters, while the "overrepresented" Midwest's electors represent only 321,000 apiece. Thus, taking the regions as a whole, a Presidential vote cast in the Midwest ends up having 11 percent more clout in the Electoral College than a vote cast in the South. (The electorate/elector ratio for the Northeast is about 340,000 voters per elector; the rate for the West is about 336,000.)

A principal reason for this anomaly: the increase in population the South has experienced since the 1980 Census. It has grown by 11 percent during the 1980s, while the Midwest has grown by 4 percent. When reapportionment was completed in 1981, the South's Electoral College clout per voter was closer to the national average than it is today.

The West grew even faster than the South during the 1980s – a total of 15 percent. But it has not outgrown its Electoral College allotment so much because Western states on average have only three-quarters the population size of their fellow states elsewhere. Thus the region benefits from the bias toward small states built into the Electoral College. (A hypothetical state with a population of one person would still be entitled to three electoral votes.) The West started out the 1980s electorally as the most favored region of all; its growth since then has simply brought its electoral clout back toward the national average.

(The constitutionally mandated Electoral College that ultimately chooses a President is composed of 538 electors; each state is represented by electors equal in number to the sum of the state's senators and representatives [in 1961 the 23rd amendment to the Constitution granted three electors to the previously voteless District of Columbia].)

Keeping House

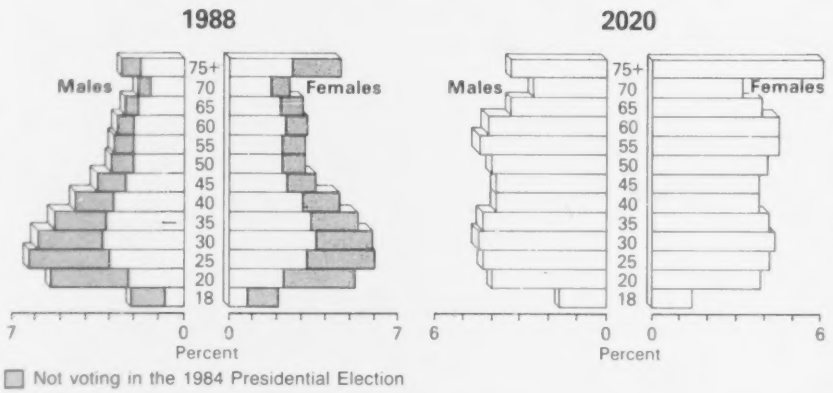
Population issues have always been of political concern, going back to the beginning of the American republic. The creation of a bicameral legislature and the overrepresentation of the less populous states in the Electoral College were attempts by the nation's founders to strike an equitable balance between the large and small states.

To keep the House in line with state population changes, the Constitution mandates periodic reapportionment of the House (hence the decennial census).* The new Data Sheet shows the projected state winners and losers in the 1990 reapportionment. Winners: California (which will pick up 5 representatives); Texas (plus 4); Florida (plus 3); Arizona and Georgia (each, plus 2); and North Carolina and Virginia (each plus 1). Since the House must remain at 435 seats no matter what the population, the corresponding losers will be New York and Pennsylvania (minus 3 seats each), Illinois, Michigan, and Ohio (minus 2). Losing a single seat will be Kansas, Iowa, Massachusetts, Montana, Wisconsin, and West Virginia. (With 1 seat snatched away, Montana loses half its congressional delegation.)

California, of course, is used to taking congressional seats away from other states. Each reapportionment since 1910 has assigned multiple new seats to the Golden State. (California's House delegation has grown every decade from 11 [1910] to 20 [1930] to 23 [1940] to 30 [1950] to 38 [1960] to 43

Continued on next page

Voting Population by Age, 1988 and 2020



*Reapportionment is determined by a precise mathematical formula – the method of equal proportions – agreed to by statute in 1941. The method is described by Dudley Poston and Marion Tolbert Coleman in *Intercom*, January 1981, page 8.

New U.S. Data Sheet

Continued from preceding page

[1970] to 45 [1980] to 50 [1990, projected]; there was no reapportionment in 1920).

Other Data Sheet Highlights

- As of mid-1987 the U.S. population (residents and members of the armed forces overseas) had reached 243,400,000. The quarter-billion mark is likely to be reached by 1990.
- The country has grown by 16.9 million since 1980. Some 89 percent of that gain occurred in the South and West. The Northeast and Midwest have grown by less than 2 million during the 1980s. As a result, the U.S. population continues to shift heliotropically toward warm weather and sunshine:

Region	Increase	Region's percentage of U.S. pop. 1980	1987
Northeast	1.1 million	21.7	20.7
South	8.5 million	33.3	34.5
Midwest	0.7 million	26.0	24.5
West	6.5 million	19.1	20.4

- The Sun Belt states continue to be the fastest growing. Fifty-two percent of all 1988 population growth occurred in just three states: California, Texas, and Florida. These three states were also the destination for 64 percent of people migrating from state to state.
- Baby boomers aren't the only voters. While the baby boom cohorts are the sizable result of post-World War II fertility, their voter participation rates are lower than their elders', as a Data Sheet graphic reveals. Indeed, participation rates increase along with age, from 42 percent at 18-19 years to, say, 71 percent at 70-74 years. Thus, while those at 20-24 outnumber those at 50-54 by 1.8 to 1, as voters they barely outvote the latter.

— A.H.

PRB members receive their copies of the *U.S. Data Sheet* (seventh edition) in the same mailing as this *Population Today*. Additional copies of the Data Sheet can be ordered from the Population Reference Bureau, Inc., Circulation Dept., P.O. Box 96152, Washington, D.C. 20090-6152, with checks payable to PRB. Prices are $2.00 ea.; 2-10 copies $1.75 ea.; 11-50 $1.50 ea.; over 50, $1.25 ea. Orders for $50 or less must be prepaid and include $1.00 for postage and handling.

WASHINGTON WATCH

This issue of Population Today *inaugurates a new column. Washington Watch, which will periodically focus on government activities of interest to the population community.*

Congressional activity during the remainder of 1988 will primarily focus on negotiating appropriation levels for the various federal programs. In what will probably be a short legislative session, interrupted by political conventions, campaigns, and elections, Congress is working to agree on appropriation bills for Fiscal Year 1989 before FY 1988 comes to an end Sept. 30.

International Population Assistance

At the end of May the Foreign Aid Appropriation Bill was overwhelmingly passed by the House of Representatives. This bill provides funding for military assistance as well as development and for population and health, food, and nutrition programs. Of the $14.3 billion appropriated, $198 million is for International Population Assistance Programs.

Additionally, the bill continues a special Africa Fund initiative of $500 million. However, nothing in this year's fund is earmarked for family planning. The Agency for International Development indicates that it will allocate approximately $34 million of that fund for voluntary family planning services in Africa.

Two development assistance programs will receive increased appropriations for FY 1989: The Child Survival Fund and the International AIDS Program. Child Survival will receive $71 million of which $10 million will be allocated to support birth spacing projects. In addition, the Child Survival Fund is expected to receive an additional $29 million from the Africa Fund, for a total appropriation of about $100 million, or $25 million above current levels. Under this bill, the AIDS Prevention and Control Program will receive $35 million, an increase of $5 million from FY 1988. Half of this $35 million is to be the U.S. contribution to the World Health Organization's program on AIDS.

Funding for Demographic Research

The major source of funding for demographic research is the National Institutes of Health (NIH), particularly NIH's National Institute of Child Health and Human Development (NICHD) and the National Institute of Aging (NIA). The appropriations for the institutes not only fund competing and noncompeting grants but also the Population Resource Center, which provides the infrastructure to conduct and coordinate this research. NICHD's appropriation for FY 1988 is $397 million. For FY 1989, the President has requested $418 million, but even this level would mean cuts in the number of research centers and additional cuts in the current research program.

The President's budget request would have a similar impact on the National Institute of Aging. The FY 1988 appropriation level is $194 million. For FY 1989, the present budget request of $205 million would nevertheless result in a reduction in the number of competing grants. The Population Association of America has presented testimony before the House and Senate Appropriations Subcommittees indicating that in order to support the full research agenda at both these institutes, Congress should consider an increase over the President's FY 1989 budget request for both.

1990 Census

After months of discussion, the Census Bureau and the Office of Management and Budget have finally agreed on the sample size of the 1990 Census. Whether Congress's concerns have been fully satisfied remains to be seen.

Last year, the Office of Management

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Hard Times for Rural U.S. During 1980s

VISTA ACTION photo

Rural America – which is home to one-quarter of the U.S. population – is in economic trouble.

Demographic and socioeconomic shifts over the past decade have caused a dramatic increase in poverty there. These changes have had a particular impact on young families and children, so that a quarter of all children in rural America were living in poverty, as of 1986. According to *The Rise of Poverty in Rural America*, a new PRB Trends Paper by demographer William P. O'Hare, "The most recent data indicate that the poverty rate in rural America [18 percent] is the same as that found in America's central cities."

The rural areas of the U.S. have traditionally been poorer than their urban counterparts, but in the 1970s, the poverty rates of the two were both on the downslope and heading toward convergence. Along with new prosperity, rural America also enjoyed a slight net in-migration, a remarkable reversal of a consistent rural-to-urban population shift that was probably as old as the nation itself.

But rural America was hit hard by the recession of the early 1980s, and many rural-based industries have deteriorated. The result has been increased poverty rates and renewed out-migration to urban areas. The poor who remain in the rural areas, moreover, are not receiving the benefits of welfare and other assistance programs to the same extent

Continued on page 8

SURVEY REPORT

Mali

U.N. Photo

Malian mother and child

Lack of information about family planning is the major obstacle to contraceptive use by Malian women, according to preliminary results of Mali's 1987 Demographic and Health Survey of 3,200 women 15 to 49 and 971 men aged 20 to 55.

Mali's 8.7 million inhabitants are largely rural, illiterate, and poor. Seventy-three percent of the survey respondents were rural and less than 7 percent of the women and 20 percent of the men could read. Over 90 percent of the population of this West African country is Moslem.

The survey confirmed the continuation of Mali's high fertility rate, with an average of 7.1 children per woman and indicated no change in that level during the past 35 years. Malian women prefer large families. Only 17 percent said that they wanted to stop childbearing; 33 percent said they would like to wait at least two years before becoming pregnant. While older women were more likely to want to avoid further pregnancies, a surprising 25 percent of women 45 to 49 said they wanted another child within two years.

About half of the women expressed a desire to control their fertility, but only 5 percent of the married women practiced family planning. Abstinence was the most commonly used method, the pill the second most popular. "Gris-gris," folk methods invoking magic used by under 1 percent of the married women, are the third most popular method.

The low contraceptive use is explained by the low level of family planning knowledge. Only 43 percent of the women were familiar with a family planning method; 29 percent, with a modern method. The link between education and contraceptive use was clearly demonstrated; current contraceptive use increased from 3 percent for those with no education to 13 percent for those with primary school education, up to 53 percent for the tiny minority of women with secondary or higher education.

The women said that lack of information and the desire to become pregnant were the main reasons they were not using family planning. Religion and opposition by a spouse, considered major obstacles to family planning in many Moslem countries, were cited by only 7 and 9 percent, respectively, of the female respondents.

Among the men interviewed, 66 percent were familiar with a contraceptive method, and 4 percent said they were currently using one, primarily rhythm and abstinence. While the lack of information was the largest single reason men, like the women, were not using birth control, 23 percent cited religious objections, the second most important reason.

Urban women were also much more likely to have had prenatal medical care and to have been attended by a medically trained assistant during their last childbirth.

– *M.K.*

DEMOGRAPHER'S PAGE

Using Brass P/F Adjustments in Estimates of Indonesian Fertility

by Terence H. Hull

This article is reprinted by permission from Research Note, Number 89, *published in 1988 by the International Population Dynamics Program of the Dept. of Demography, The Australian National University.*

According to the United Nations' Manual X (*Indirect Techniques for Demographic Estimation*),[1] the first publication of fertility adjustment factors based on the comparison of recent fertility reports and cumulative children ever born was in the early 1960s, when William Brass proposed a technique for the estimation of African fertility.[2]

This was a major breakthrough in demographic analysis because it allowed more confidence to be placed in the fertility rates derived from censuses and surveys which were known to contain a wide variety of reporting errors. In the absence of accurate vital registration, the Brass methods, as they came to be known, provided some of the first valid estimates of fertility in countries where fertility was previously known simply to be high.[3]

The heart of the method is:

> the adjustment of the age pattern of fertility derived from information on recent births by the level of fertility implied by the average parity of women in age groups 20-24, 25-29, and perhaps 30-34.[4]

The reasoning behind the adjustment is that the information given by women about births in the 12 months preceding the survey might be distorted due to the inability of respondents to accurately report on births in terms of an arbitrary calendar point, while older women might omit to report all the children they have given birth to because the children are long dead, or have left home, or the women simply do not understand the question.

The method assumes that the relatively young women would have given accurate responses to the number of children ever born, and that these can be used to correct the inaccuracies of reported fertility in the last year. It uses the ratio of parity (children ever born or P) in each five-year age group to cumulative parity equivalents of the current fertility schedule (F) as the factor for the adjustment, hence the name P/F Ratio Method.

Since the original formulation of the method, many refinements and variations have been developed. The most important of these are described in detail in Manual X.[5]

> Has Indonesian fertility decline stalled or are estimates off track?

Fertility in Indonesia

In discussions of fertility in Indonesia it has sometimes been suggested[6,7] that P/F adjustments for that country should be applied to the Last Birth results, in order to obtain "more accurate" estimates of fertility.

The reasons against such a procedure are as follows:

1. The original P/F ratio method assumes that fertility has been constant. All evidence in Indonesia shows a major and growing fertility decline since the 1960s.

2. The modification of the P/F method to take account of declining fertility requires data not readily available in Indonesia.

3. The key assumption that mothers misreport the number of births in the last 12 months is irrelevant since the Last Birth estimates rely on the reported date of the most recent birth, and generally use the reports of births in the last nine or 10 months, adjusting these upwards to obtain an annual fertility rate. Indonesian women who have given birth in the last year are very likely to know the month of that birth, although there is some suspicion that interviewers fail to ask the question.

4. While older Indonesian women show lower reported parity than that implied by current fertility, there is substantial evidence that fertility was lower in the 1940s than the 1950s and 1960s.

Although not convinced that the basic data of the Last Birth calculations in 1975, 1980, and 1985 were perfectly accurate, we found little basis on which to think that they were anywhere near as inaccurate as the African data which inspired the development of the P/F technique, and we were certain that the evident decline in fertility would violate the basic assumption of the method: constant fertility in the recent past. For this reason the Last Birth estimates have been presented without P/F adjustments. The total fertility rate (TFR) estimates based on both the Last Birth and Own-Child Methods are shown in Table 1.

It is evident that the two methods are consistent, with both showing fertility declining at an increasing pace. The estimate of a TFR of 3.26 (or 3.3) for 1985 was greeted with enthusiasm by workers in the family planning program, as evidence of the success of their efforts. Analysts in the Central Bureau of Statistics were more cautious, and rather than accepting the Last Birth results, have chosen to extrapolate Own-Child figures (using constant rates of decline from earlier periods), to give a figure for 1985 of 3.66.[8]

The recent announcement by the

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Table 1: Total Fertility Rate Estimates for Indonesia Based on Last Birth and Own-Child Methods

Year	Last Birth	Own-child
1967-70		5.61
1971-75		5.20
1975	4.9	
1976-79		4.7
1980	4.27	
1980-84		4.06
1985	3.26	

Minister for Population and Environment that the 1987 Indonesian Prevalence Survey (IPS) had produced a TFR of 3.6 raises a number of questions, whether compared with the Last Birth result for 1985, or the extrapolation of the Own Child result.[9]

Has Indonesian fertility decline stalled? If so, why, when the recorded prevalence of contraceptive use is still climbing? Or have both the Last Birth and Own-Child approaches to estimation been completely off the track? Whether a behavioral change or a technical failure, the questions are serious and difficult.

When we learn that the 1987 results have been adjusted using P/F ratios, the answers to these questions become a little more clear. Since, under conditions of falling fertility, the conventional P/F adjustment would overestimate fertility, we can assume that the 3.6 figure for 1987 should be reduced somewhat. Since the full calculation has not been released, it is impossible to say just how much of a reduction might be involved. Some idea of the potential magnitude of the adjustment can be gained by considering what the TFR for 1985 would have been had the P/F adjustment been applied then. Instead of the 3.26 we calculated, the TFR would have been 3.66, or slightly higher than the preliminary figure for 1987.

It bears repeating that the reason we rejected the use of P/F adjustments in 1985 continues to be valid in 1987, and the Indonesian Prevalence Survey has thus gone off the track in the fertility estimate. The implications of this are far-reaching, affecting the estimates of population growth rates and projections, and through these, planning for various development projects.

Discussion

What should be done now? Initially, the most important priority is to obtain enough data from the IPS to calculate a range of fertility estimates using Last Birth, Own-Child, and other methods which are robust in the face of declining fertility. This will also entail analysis of changing marriage patterns, to investigate the internal logic of apparent fertility changes in terms of marital fertility rates and the changing proportions of women who are currently married. Next, attempts should be made to analyze apparent trends of fertility in large provinces or major islands. Finally, the Bongaarts equations should be applied to investigate the compatibility of the fertility and contraceptive use estimates.

Policymakers need deeper understanding of actual fertility trends

In the long run, though, the IPS should consider measures to improve the reliability and accuracy of the Last Birth estimates of fertility. Attention should be given to improving question design and interviewer training to raise the accuracy of reported month of birth in the preceding two years. Internal checks should be built into the question to ensure that all women reporting a positive number of children ever born also have a date for the last birth. Finally, detailed analyses should be made of the sex ratios and relative numbers of births by month over the preceding 12 to 15 months.

The Last Birth approach is not perfect, but it can be improved through reforms to the data collection procedures at the Central Bureau of Statistics. In the meantime, the application of standard P/F adjustments will not improve fertility estimates; on the contrary, errors will be compounded. Moreover, such results will spawn false debates on Indonesian fertility at a time when planners and policymakers looking to the next five-year plan are in need of deeper understanding of actual fertility trends, and clearer appreciation of the real shortcomings that continue to bedevil Indonesian demographic data.

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PRB Survey

"More maps."

"A comprehensive annual index."

"Computer software."

These are some of the most frequently expressed comments contributed by PRB members who responded to the recent Readership Survey.

PRB is currently conducting a review of its membership services and methods of disseminating population information to the public.

The information will become the basis of significant changes in PRB publications to be implemented during the next six months. The Readership Survey taken over the past eight months was part of this review. While many members wrote, "I'm happy with the publications. Keep up the good work," a number of suggestions called for adding to or modifying already existing publications.

One change will be in members' hands shortly: a one-page discussion guide with questions which will appear at the end of each *Bulletin* from now on. Such a guide was requested by almost half of the college professors who responded to the survey, and will be written for college-level audiences.

Another new material text requested by the vast majority of high school teachers is a data sheet workbook to accompany the annually published *World Population Data Sheet*, which appears each spring. The new workbook will be used by high school students, and will contain an 8½ × 11 inch version of the Data Sheet and questions and answers at several levels.

Population education materials will be changed modestly so as to serve both the PRB membership made up primarily of college-level teachers, and the population education audience.

Population Education Interchange and the *Population Learning Series* will be consolidated into one series for members. Each year they will receive one resource guide, such as the guide to population education software or audiovisual materials, and two teaching tools such as the data sheet workbook, or a student chartbook or reading.

Each teaching tool is to include a teacher's page. Efforts will be made to make the teaching tools more appropriate to the intended audience. Some will be strictly at the secondary level; others at the college level.

In response to requests for materials that will photocopy well, future population education publications will be designed and printed in such a way that they are completely legible when reproduced. This was done in the recently published student chartbook on U.S. population trends. Graphics appearing in other future PRB publications will also be prepared with an eye towards legible photocopying.

To help readers to locate a particular PRB article or issue, an annual comprehensive index of all PRB publications will debut in the December *Population Today*. The index will also contain a listing of the publications sent to PRB members during the current year.

Finally, some good news and some bad news for those members clamoring for maps and software. Yes – maps will be inserted in PRB publications wherever possible and appropriate. But no – PRB will not be developing software. However, *PT* and the Population Education department will continue to keep members informed of high quality population software. And the *World Population Data Sheet* will continue to be available on diskette in Lotus 1-2-3 (ver. 2.01) format, for $10.

– Patricia Cancellier

Hard Times

Continued from page 5

as their urban counterparts. How to improve their situation, and that of the rural economy, remains a challenge to policymakers that is not likely to be solved soon, according to O'Hare, who is Director of Policy Studies at PRB.

– A.H.

Copies of *The Rise of Poverty in Rural America*, by William P. O'Hare, are available for $3.00 per single copy; 2-10 copies, $2.30 each; 11-50 copies, $1.90 each; 51 or more, $1.50 each. Orders of $50 or less must be prepaid and include $1.00 for postage and handling. Send order and remittance to Population Reference Bureau, Inc., Circulation Dept., P.O. Box 96152, Washington, D.C. 20090-6152. Make checks payable to PRB.

Quebec's New Birth Bonuses

Birth	Allowance (in Canadian dollars)
First child	$ 500
Second child	500
Third child or more	3,000

This is the payment schedule for the Province of Quebec's new birth allowances to parents upon the birth of a new child. The allowance was instituted by the provincial government in May 1988 "to promote the family in Quebec."

Eligible families are those with children born or adopted on or after May 1, 1988. The program is specifically targeted at Quebec residents, who must be Canadian citizens or landed immigrants.

The allowance is explicitly a cash bonus for having children. It is paid automatically to qualified recipients in eight installments over two years. Payments are tax-exempt. Other pronatalist benefits announced at the same time by the provincial government: income-tax cuts and interest-free home loans for parents.

Besides its new birth bonus, Quebec also pays monthly child allowances until age 6 ($500 a year for third births and above, less for first and second births). The provincial government estimates that the cost of such support will reach $772 million in 1989. All this is in addition to the traditional monthly child allowance that the Canadian national government pays to parents.

With a 1988 population of 6.6 million, Quebec is Canada's second most populous province, after Ontario, and contains about 26 percent of the national population. The province is overwhelmingly French in origin and includes over 80 percent of Canada's French speakers. A strong sense of cultural heritage has fostered contention between French and English groups in Canada – an officially bilingual country. This contention culminated in the French-Quebec-separatist movement, and while a pro-separation proposition was defeated on the ballot in 1981, the issue remains very much alive.

One manifestation of this contention has been rising concern about Quebec's falling fertility. The province recorded a total fertility rate of (TFR) 3.7 lifetime children average per woman as recently as 1958. But a trend toward low fertility accompanied massive social and economic changes in the province during the 1950s when Quebec made a transition from a largely agricultural economy to an industrialized one.

As of 1988, Quebec not only has the country's lowest TFR – 1.4 – but is experiencing significant out-migration to other provinces, due in part to economic problems.

Will Quebec's cash incentives for births succeed? If the experience of other countries such as Czechoslovakia and Romania is any indication, incentives seem to successfully induce a short-term "bump" upward in fertility. After that, however, fertility tends to regress to former levels, and the impact of incentives diminishes. *– A.H.*

Washington Watch

Continued from page 4

and Budget had ordered a number of deletions in the 1990 Census questionnaire; a shift in the questions from the short to the long form and also a significant reduction in the sample size (see *PT*, November 1987). Constituents ranging from housing advocates to researchers protested the changes. The final compromise restored most of the questions proposed for elimination, moving some questions back to the short form. The sample size was also restored to the 1980 level of 16-17 million households. While this is proportionally a smaller number, The census Bureau reportedly feels it is adequate to obtain data for small subpopulations.

– Nancy McConnell

Nancy McConnell is director of the Washington, D.C., office of the Population Resource Center. The Center monitors legislative issues of concern to the Population Association of America. Neither the Center nor the Association advocates any particular population policy but works to protect funding for quality demographic research.

SOFTWHERE

PC-Globe is a commercially available mapping and database program that puts an atlas and encyclopedia on your desk. Colorful maps of six continents and 177 individual countries are displayed with their principal cities, population density and elevation. Further, PC-Globe contains information on each country, including national population, age distribution, major cities, time zones, health statistics, imports and exports, major industries, political parties, balance of trade statistics, world data and commodity rankings, and much more.

PC-Globe was developed by a team of educators for instruction to elementary to high school students, as well as home use.

Coming in August 1988 is PC-USA, a similar mapping and database covering the United States. The programs run on IBM or compatible computers, and come with six diskettes. Required are two drives, DOS 2.0 or higher, 256K and a color adapter board and $59.95 plus $4 for shipping.

Both PC-GLOBE and PC-USA will be using data from PRB's 1988 *World Population Data Sheet* and *Metro-USA Data Sheet* (PRB provided those data to the developer gratis.) For more information contact: Comwell Systems 2100 S. Rural Rd., Tempe, Ariz. 85852.

– D.L.

POPULATION UPDATE

Estimated United States Population:

As of March 1, 1988	245,385,000
As of March 1, 1987	243,153,000

The above estimates, the latest available, include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 1025.

Estimated World Population:

As of July 1988	5,128,000,000
Annual growth	89,000,000

Estimated by extrapolation from the mid-1988 population on PRB's *World Population Data Sheet*.

Latest Provisional Statistics for the U.S.: February 1988

	12 months ending with February					
	Number		Rate			
Item	1988	1987	1988	1987	1986	1985
Live births	3,818,000	3,732,000	15.7	15.5	15.7	15.6
Deaths	2,149,000	2,096,000	8.8	8.7	8.7	8.8
Natural increase	1,669,000	1,639,000	6.9	6.8	7.0	6.8
Marriages	2,397,000	2,383,000	9.8	9.9	10.2	10.4
Divorces	1,161,000	1,155,000	4.8	4.8	5.0	4.9
Infant deaths	38,200	38,600	10.0	10.4	10.5	10.7
Population base (in millions)			243.7	241.4	238.7	236.5

Note: Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.

Source: *Monthly Vital Statistics Report* (Vol. 37, No. 2) from the National Center for Health Statistics.

TAKE A NUMBER

Childbearing, U.S.A.: After several pronounced fluctuations in this century, is it possible that U.S. fertility has reached a level where it may stabilize for the foreseeable future?

While there is likely to be a diversity of opinion on this issue, the evidence in hand suggests that this just may be the case. Recent years have seen much speculation on just how low the U.S. birth rate would go. As low as the rates in much of Europe, 1.3 to 1.6 children per woman?

Since 1977, the U.S. total fertility rate (TFR) has averaged 1.8 children per woman. The low point in American childbearing, occurred in the nation's Bicentennial year, 1976, the only year in which the TFR was as low as 1.7. In 1987, however, the TFR finally became unstuck from its decade-long 1.8 value, and, the provisional TFR of 1.88 actually rounded to 1.9. Does this suggest a new "baby boom?"

Judging by the Census Bureau's annual report on birth expectations, it does not. The Bureau's Current Population Survey for March 1987 indicates that American women still expect to have about 2.0 to 2.1 children during their lifetimes, a value which has changed little since 1979. Thus, it would appear that the U.S., following the pattern previously observed in most other developed countries, may have seen its fertility stabilize at a comparatively low level, but not as low as the "birth dearth" countries in Europe.

Meanwhile, North of the Border: The decline in the Canadian TFR to a lower level, 1.7, has rekindled that country's perennial population debate about growth, fertility, and immigration. A Statistics Canada report issued in late 1987 had noted that a continued TFR of 1.7 would require an annual immigration level of 275,000 by the turn of the century if an annual growth rate of 1 percent were to be maintained. If the TFR were to drop to 1.4, immigration would have to be increased to 325,000. The presumption of a growth rate of 1 percent is a fundamental tenet of the debated policies, one which apparently seems unquestioned. The likely diversification of Canadian society has stirred far more press discussion. All in all, it's an interesting case of a country grappling with fertility decline and its consequences. (Taken from *Demography and Immigration in Canada: Challenge and Opportunity*, Canada Employment and Immigration Commission, November 1987)

—*C.H.*

POSITIONS/ PROFESSIONALS

The Rockefeller Foundation is continuing its **Social Science Research Fellowship** program in population studies in 1989. This program will enable up to six highly qualified persons who have received social science doctorates within the last 10 years to receive appointments as scholars in developing countries starting in late 1989. They will be placed at universities that have training and research programs in population studies or at research centers, and will be expected to do collaborative research with scholars at the host centers and some teaching. The program is open to citizens and permanent residents of the U.S. and Canada. Applications must be received by Dec. 31, 1988.

For further information, contact: Fellowship Office, Rockefeller Foundation, 1133 Avenue of the Americas, New York, N.Y. 10036.

ADDENDA

"I told you I'd think about it"

Drawing by Sauers. ©1988 the New Yorker Magazine, Inc.

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 777 14th St., N.W., Washington, D.C. 20005.

DOLLARS AND DREAMS: The Changing American Income Distribution, by Frank Levy. New York: Russell Sage Foundation, 1987. 259 pages. $27.50. ISBN 0-87154-523-3.

Demographic concerns with income inequality have typically been of two kinds. One concern has been with the extent to which mortality or fertility differences among population groups, usually subnational, can be explained by their income variations. A second focus has been aggregate – mainly national – demographic behavior patterns and whether these can be usefully related to overall measures of income inequality (for example, "Gini" coefficients that summarize the extent to which lowest to highest income classes differ in their shares of total income). Under either approach, the direction of cause-effect analysis has been from income distributive explanations to demographic outcomes.

Dollars and Dreams, part of a census monograph series dealing with "The Population of the United States in the 1980s," heads in an opposite direction; it takes demographic or other influences as the causal entities, and views income distribution patterns or trends as their effects. Within this framework, the coverage of topics singled out for discussion ranges widely.

Size distributions of income (both by family and individual units of observation) receive main emphasis, but this is far from exclusive. Distributional aspects among family type, sex-age-race, occupational, geographic, and metropolitan status categories all obtain extended attention, as do distinctions between money and nonmoney sources of income, private and public sources, and others.

Similarly wide ranging is Levy's coverage of the causal, conditioning, and consequential factors deemed central to interpreting the distributional facts: the early post-World War II economic, social, and demographic settings for what was to follow through 1984; family structural transformations; interregional and intrametropolitan migration aspects; changing labor force correlates; the role of occupational-industrial change-overs; welfare implications; and aging tendencies – in each case with attention to their progression into the early or mid-1980s. Readers of this clearly written, user-conscious narrative are not likely to finish reading without gaining a new awareness of the potential reach of distributional cause-effect linkages affecting American incomes.

As to main conclusions, several recur. Despite widespread beliefs to the contrary in the U.S., family income inequality "has remained relatively constant since World War II," following a period of modestly lower inequality between the late 1940s and early 1980s (of which more below). Such constancy, however, has neither been welfare-neutral nor an outcome of fixed causal characteristics. Post-1973 shares of the nation's income pie have implied smaller gains or even absolute declines in material well-being for many, given the watershed drops in output and productivity which have taken place in recent years, compared to pre-1973.

Equally significant have been the changed demographic and socioeconomic profiles of the U.S. lowest-income population sectors: "Incomes of the elderly have moved up while incomes of younger families have moved down. Fewer families have at least one worker while more rely on government benefits. Regional income gaps have closed but city-suburban gaps have grown larger, a reflection of the growing number of city families headed by single women." Moreover, "As a source of income inequality, changes in family structure have potentially more importance than any other factor we have examined."

The great bulk of the volume's empirical materials stem from survey and other recurring data sources rather than from decennial census data proper; presumably the reason has been to take advantage of the most recent data available at time of writing.

Despite this, the most striking overall empirical conclusion for the volume – involving the constant inequality conclusion cited earlier – is clearly questionable at best and may well be seriously misleading. Based largely on comparisons between "end year" measures for 1947 and 1984, the conclusion ignores the fact that rising inequality tendencies, while inching rather than pronounced in yearly amounts, have been accumulating ever since the 1970s and have apparently been gaining momentum throughout this decade to 1986, a pattern the author himself has recently acknowledged (*New York Times*, May 1, 1988, business section, p. 3). The question takes on double significance in this presidential year, both for its bearing on a major socioeconomic trend possibility, and for its potential bearing on voter choices come this November.

– George J. Stolnitz

SPOTLIGHT

FRENCH POLYNESIA

Population (mid-1987 est.): 176,600
Land area: 1,418 sq. miles
Sea area: 1,544,000 sq. miles
Births per 1,000 pop.: 30.6
Deaths per 1,000 pop.: 5.5
Rate of natural increase: 2.5 percent
Total fertility rate (1985-86 est.): 3.6 children per woman
Infant mortality rate: 19 infant deaths per 1,000 live births
Life expectancy at birth (1985 est.): 71 years
GNP per capita (1985 est., corrected for Purchasing Power Parity): US $7,300
Capital: Papeete

by John F. May

French Polynesia has a population that is scattered over four main archipelagos (Society Islands, Marquises, Australs, and Tuamotu-Gambier) and divided among various ethnic groups (Tahitians or Polynesians, "Demis," i.e., half European and half Tahitian/Polynesian, Chinese, and Europeans). These subgroups of the population, divided both ethnically and geographically, are all reasonably advanced in their demographic transition, albeit at different stages. This process is fairly well documented since French Polynesia, as an overseas territory of France, has a sophisticated data collection system.

The latest census, conducted in October 1983, yielded a total population of 166,753, of which more than 85 percent lived in the Society Islands group. About 50 percent of the population is less than 20 years old and slightly more than 5 percent is older than 60. The rate of natural increase is moderate, mostly due to the recent decline in fertility (the current total fertility rate of 3.6 lifetime children per woman is average by South Pacific standards). Mortality, especially infant mortality, has sharply declined since World War II, to equal industrialized countries' levels, at least on the most developed islands.

Internal migration is important to the population dynamics of French Polynesia, while international population movement – mostly between France and its overseas territories – plays an unpredictable role. For instance, following the political turmoil which occurred in the early 1980s in New Caledonia, another overseas territory of France, several hundred New Caledonians, originally from France, decided to move to Tahiti. More recently, however, immigration into French Polynesia seems to have declined substantially.

The results of the upcoming census, to be held in September 1988, should confirm that the demographic transition is continuing in French Polynesia. Life expectancy at birth will increase moderately, but infant mortality may soon level off because improvements will probably be harder to achieve in the outer islands. Fertility will continue to decline: About two-thirds of women aged 15-49 in Tahiti used a modern method of contraception in the early 1980s. Whether this pattern will spread to the entire territory remains to be seen. World Bank projections, assuming little decline in mortality, yield a total population of just under than 400,000 by the year 2030.

The major remaining challenge for French Polynesia may be to develop the numerous small islands scattered over a gigantic ocean area territory that is about half the size of the 48 contiguous states of the USA. Traditional income-generating activities such as the production of coconuts, mother-of-pearl, and vanilla have gradually been replaced by tourism-related activities. Modern-sector jobs have also been made available by the creation of the Pacific Experimentation Center in 1962, and by the establishment of the French nuclear test base in the Tuamotu-Gambier group. Nevertheless, exports from French Polynesia cover only a marginal part – about 5 percent – of the imports (mostly fuel, foodstuffs, and equipment). The economy of the territory will therefore remain heavily dependent on transfers from metropolitan France unless enormous investments are made to extract the potentially huge food, mineral, and other resources from the surrounding ocean.

John F. May is Senior Population Analyst at The Futures Group, Washington, D.C.

Tahiti Tourist Promotion Board

The largest island in French Polynesia is Tahiti.